

1. A device for carrying a heated liquid, and controlling the temperature of the heated liquid, comprising:
- a liquid conveying element including a passage for carrying the heated liquid,
  - 5 first and second temperature sensing devices operatively associated with said liquid conveying element to enable sensing the temperature of the heated liquid in said passage,
  - a controller actively connected to said first temperature sensing device and not actively connected to said second temperature sensing device
  - 10 such that said first temperature sensing device senses the temperature of the heated liquid in said passage and communicates the sensed temperature to said controller, said second temperature sensing device capable of being actively connected to said controller upon failure or malfunction of said first temperature sensing device; and
  - 15 a heater coupled with said controller and operated by said controller based on the sensed temperature readings taken by said first temperature sensing device.
2. The device of claim 1, wherein said controller is configured to detect the failure or malfunction of said first temperature sensing device and provide indication thereof to an operator.

3. The device of claim 2, wherein said controller is further configured to automatically actively connect to said second temperature sensing device after detection of the failure or malfunction of said first temperature sensing device.

4. The device of claim 1, wherein said liquid conveying element comprises a component in a hot melt adhesive dispensing system configured to carry a hot melt adhesive in said passage.

5. The device of claim 1, wherein said first and second temperature sensing devices are resistance temperature detectors.

6. A device for carrying a heated liquid, and controlling the temperature of the heated liquid, comprising:

a liquid conveying element including a passage for carrying the heated liquid,

5 first and second temperature sensing devices operatively associated with said liquid conveying element to enable sensing the temperature of the heated liquid in said passage,

a controller actively connected to said first temperature sensing device and actively connected to said second temperature sensing device such  
10 that said first and second temperature sensing devices sense the temperature of the heated liquid in said passage and communicate the sensed temperature readings to said controller, said first and second temperature sensing devices capable of being selectively deactivated upon failure or malfunction such that said controller only communicates with the remaining actively connected one of  
15 said first and second temperature sensing devices; and

a heater coupled with said controller and operated by said controller based on the sensed temperature readings taken by at least one of said first and second temperature sensing devices.

7. The device of claim 6, wherein said controller is configured to detect the failure or malfunction of either one of said first or second temperature sensing devices and provide indication thereof to an operator.

8. The device of claim 7, wherein said controller is further configured to automatically deactivate a malfunctioning or failed one of said first and second temperature sensing devices.

9. The device of claim 6, wherein said liquid conveying element comprises a component in a hot melt adhesive dispensing system configured to carry a hot melt adhesive in said passage.

10. The device of claim 6, wherein said first and second temperature sensing devices are resistance temperature detectors.

11. The device of claim 7, wherein said controller is further configured to cycle at least one of said first and second temperature sensing devices on and off.

12. A redundant temperature sensing device configured to be coupled to a component in an apparatus carrying a heated liquid for sensing the temperature of the heated liquid, and further coupled to a controller for controlling the temperature of the heated liquid based on the sensed
- 5 temperature, comprising:
- a housing;
  - first and second temperature sensing devices carried by said housing, said first and second temperature sensing devices each respectively coupled to first and second electrical leads, whereby said first temperature
  - 10 sensing device may be actively coupled to the controller and said second temperature sensing device is capable of being actively connected to the controller upon failure or malfunction of said first temperature sensing device.
13. The device of claim 12, wherein said first and second temperature sensing devices are resistance temperature detectors.
14. The device of claim 12, wherein said first and second temperature sensing devices are further coupled to a common electrical lead.

15. A method of controlling the temperature of a heated liquid carried within a heated device having first and second temperature sensing devices and a heater operatively coupled thereto, and with at least one of the first and second temperature sensing devices coupled with a controller, the method
- 5 comprising:
- detecting the temperature of the liquid in the device with the first temperature sensing device,
  - communicating the detected temperature to the controller,
  - adjusting the heater with the controller based on the detected
  - 10 temperature,
  - detecting a malfunction or failure of the first temperature sensing device,
  - detecting the temperature of the liquid in the device with the second temperature sensing device, and
  - 15 repeating the communicating and adjusting steps using temperature detection information from the second temperature sensing device.
16. The method of claim 15, wherein the step of detecting the malfunction or failure of the first temperature sensing device is performed by the controller.
17. The method of claim 15, wherein detecting the temperature of the liquid in the device with the second temperature sensing device is initiated automatically by the controller upon detecting the malfunction or failure of the first temperature sensing device.

18. The method of claim 15, further comprising electronically indicating the detected malfunction or failure of the first temperature sensing device to an operator.

19. The method of claim 15, further comprising:  
detecting a malfunction or failure of the second temperature sensing device by cycling the second temperature sensing device from a deactivated state to an activated state.